

**SCHOOL OF PUBLIC HEALTH**  
**COLLEGE OF MEDICINE AND HEALTH SCIENCES**  
**UNIVERSITY OF GONDAR**

**ASSESSMENT ON PREVALENCE OF KHAT CHEWING, ASSOCIATED FACTORS  
AND ITS INFLUENCE ON ACADEMIC PERFORMANCE AMONG UNIVERSITY OF  
GONDAR STUDENTS, GONDAR TOWN, NORTHWEST ETHIOPIA**

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**GONDAR, ETHIOPIA**

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## **Abstract**

**Background:** The leaves of the plant khat are commonly chewed in certain countries of East Africa and the Arabian Peninsula for various purposes. Khat chewing habit is spreading at an alarming rate among the young generation especially in high schools and higher institutions. Studies on prevalence of khat chewing among University of Gondar students were done 10 years ago and this study is thus timely to detect changes in khat chewing habit of students.

**Objective:** The objective of this study was to assess the prevalence of Khat chewing, associated factors and its influence on academic performance among University of Gondar students.

**Method:** Institution based cross sectional study was conducted among University of Gondar students. Sample of 800 students were selected by using multi stage sampling technique .The data was collected by using anonymous self administered questionnaire and analyzed by using SPSS version 16.

**Results:** The lifetime and current prevalence of khat chewing were 27.7% and 16.4% respectively. Multivariate analysis showed that being male by gender (AOR [95% CI] =9.37 [2.41, 36.44]), urban by residence (AOR [95% CI] = 1.94 [1.05, 3.58]), ever alcohol use (AOR [95% CI] = 3.95 [2.03, 7.69]) and cigarette smoking (AOR [95% CI] =5.32 [2.32, 12.22]) were associated with khat chewing habit. The presence of khat chewers in the family (AOR [95%CI] =2.67[1.23, 5.80]) and among friends (AOR [95%CI] = 6.75[3.48, 13.06]) have also significant association with khat chewing habit. The mean CGPA of non-chewers was found to be significantly higher than chewers.

**Conclusion:** The prevalence of khat chewing is almost the same as it was ten years back. Gender, religion, place of up bringing, family member chewing khat, friends chewing khat, alcohol intake and cigarette smoking have shown significant association with khat chewing habit. This study also showed the mean CGPA of non-chewers was significantly higher than that of chewers. The university needs to have strict controlling mechanism regarding to the implementation of rules and regulations on substance abuse.



## **1 .Introduction**

### **1.1 Statement of the problem**

Khat (*Catha edulis*) grows at high altitudes extending from East to Southern Africa as well as Afghanistan, Yemen and Madagascar. The leaves of the plant are commonly chewed in certain countries of East Africa and the Arabian Peninsula (1, 2, 3). The Khat plant is known by a variety of names, such as qat in Yemen, chat in Ethiopia, jaad in Somalia and miraa in Kenya; but in most literature it is known as khat (4, 5).

The origin of Khat is not clear, but it is generally agreed that Khat is native to Ethiopia and was first used there (5, 6, 7, 8). In khat growing countries, the chewing of khat leaves for social and psychological reasons has been practiced for many centuries. Its use has gradually expanded to neighboring countries and beyond through commercial routes. Recently, increasing numbers of immigrants have spread the practice to Europe and the United States (9).

Historically, khat has been used as medicine to alleviate symptoms of melancholia and depression. Modern users report that chewing Khat gives increased energy levels and alertness, improves self-esteem, enhances imaginative ability and the capacity to associate ideas, and improves the ability to communicate(10, 11)

Khat contains the alkaloids norephedrin, cathine and cathinone. Cathinone has a similar mechanism of action as amphetamine, therefore, it is considered as a natural amphetamine (5, 12). Khat is consumed primarily for its amphetamine-like stimulant and euphoric effects(13,14,15,16) .It loses its potency within 48 hours of being picked and for this reason people prefer to chew it while it is still fresh( 17,18,19).

In Ethiopia ,khat is commonly used for social recreation.Certain occupational groups like students use it for relieving stress and increasing alertness (1,19). Khat is profitable to the huge number of people involved in its production and marketing, a considerable amount of revenue is generated from Khat export by countries that grow Khat. (5, 16) However, studies have reported that regular consumption of Khat may be associated with various health and socio- economic problems affecting both consumers and their families (6, 20, 21).

## **1.2 Literature review**

### **1.2.1 Magnitude of Khat chewing**

#### **1.2.1.1 Magnitude in the general population**

It is estimated that several million people are frequent users of khat. Many of the users are from Ethiopia, Sudan, Somalia, Kenya, Madagascar, and Yemen. In Yemen it is estimated that up to 80-85% of adult males and 50-60% women chew khat more than once a week (2).

A cross sectional study in Ijara District, North Eastern Kenya shows 88% of the respondents were khat chewers, and the majority (80%) had family members who engaged in the khat chewing habit (21). In a similar study carried out in three towns of south western Uganda, 32% of participants had a lifetime experience of khat chewing and 20% were current chewers (22).

A study conducted in northwestern Somalia (Somaliland) showed that khat use was more frequent and excessive among male ex-combatants (60%) than among adult male civilian war survivors (28%) and males without war experience (18%) (23).

The khat chewing prevalence rates are different from place to place in Ethiopia. According to a community based survey conducted on 1200 adults at Adamitulu district, south Ethiopia the prevalence rate of khat chewing was 31.7%(16). A cross-sectional house to house survey conducted in Jimma town showed a prevalence rate of khat chewing to be 30.6 %(6,15). .

A house-to-house survey conducted among a rural community of Butajira revealed that 56% of the sample has lifetime khat chewing experience and the prevalence of current use was 50%. From these current users 17% of them chew khat on daily base (5).

Study conducted among staff of Jimma University revealed that the lifetime prevalence of khat chewing was found to be 46% and the prevalence of current use was 30.8% (19). In similar study conducted among instructors of Northwest Ethiopia (Gondar College of Medical Sciences, Gondar Teachers' Education College, Bahrdar University Engineering Faculty and Bahrdar University Education Faculty) revealed prevalence of current khat chewing was found to be 21 %.( 24)

#### **1.2.1.2 Prevalence in students**

Khat chewing habit is being a hot issue of discussion nationwide. This habit is spreading at an alarming rate among the young generation, especially in high schools and higher institutions, where there are intensive academic activities (25).

A study done in Saudi Arabia among college and secondary school students in Jazan region revealed the overall prevalence of khat chewing among the study population was found to be 21.4%. Khat prevalence was high in secondary schools (21.5%) compared to the colleges (15. 2%) (26).

A nationwide survey carried out among 20,234 in school and out of school youth aged between 15 and 24 years showed that 23% of out of school youth and 7.5% of in school youth used khat every day or once per week (27).A study conducted among college students of Northwest Ethiopia revealed a life time prevalence rate of khat chewing to be 26.7% and the current prevalence was 17.5%. (14).

One cross sectional study which was conducted among Jimma university students revealed current prevalence of khat chewing to be 24.79%.(25).

In a study done among school and out of school youth in Gondar town revealed 37.1% life time prevalence rate of khat chewing and the current prevalence rate of chewing was 31.4%( 48.8% of the out of school and 9.1% of the in school youth chew chat)(28).

### **1.2.2 Factors associated with khat chewing**

Several studies showed that Khat chewing is associated with gender, age, religion, residential area and family history of khat chewing (5, 14, 19, 26). In a study done in Saudi Arabia, khat chewing is strongly associated with age, gender and place of residence (26).

In a study conducted among Jimma university students, khat chewing were seen more among males (27%) and Muslim students (46.7%) (25). Similar studies done in Agaro high school students and among Butajira adults revealed that being Muslim and male have significant association with khat chewing habit (5, 17). There was also a significant association between age and Khat chewing in a study done in Agaro secondary school students (17).

External influences by family members or peers have a key role in Khat chewing habit. According to a study done in North Western Ethiopia the presence of family members who chew Khat was a risk factor for Khat chewing habit of their children and this was supported by a study done in Jimma university students where the presence of khat chewers in the family and among friends have a significant association with khat chewing habit (17, 25, 28).

Different Studies show association between the habits of Khat chewing and use of other substances at different times and places (19, 25, 27, 28). In a study done in the South western part of Uganda, there was an association between khat chewing and the use of alcohol and tobacco (22).

In Butajira study among adults, the proportion of smokers was significantly higher among Khat chewers (10.8%) than non-chewers (4.8%) Similarly, Khat chewers were significantly more likely to be drinking coffee (29). In a study conducted among Jimma University staff revealed that smoking and alcohol intake have significant association with the habit of khat chewing (19).

### **1.2.3 Effects of Khat chewing**

Khat use has lots of problems on health, socio-economic and academic or work performance.

#### **1.2.3.1 Health effect**

Habitual use of khat has potential adverse effects on mental, physical and social well-being. Khat chewing can cause damage to the nervous, respiratory, circulatory and digestive systems. One of the organs manifesting the effect of khat chewing is the brain. It can cause anxiety, tension, restlessness, hypnologic hallucinations, mania and aggressive behaviour or psychosis (5, 6, 26). Chronic consumption can lead to impairment of mental health, possibly contributing to personality disorders and mental deterioration (6, 30).

Khat chewing can cause gastro-intestinal problems which include constipation, stomatitis, esophagitis and gastritis. Other reported oral adverse-effects include periodontal diseases, dental caries and keratosis of buccal mucosa (5, 6, 8). Loss of sexual desire is reported frequently by men during khat use. With chronic use, khat causes a more severe reproductive toxicity including reduction in sperm count and motility (31, 32, 33).

Since Khat leaves contain a chemical with vasoconstrictor properties, khat use produces cardiovascular effects within 15-30 minutes that may lead to elevated blood pressure, increases in heart rate, palpitation and increased incidence of acute myocardial infarction (AMI) (26).

Babies born from women who chew khat habitually are smaller and their mothers produce less milk. This shows that the use of khat by mothers can cause growth retardation to their babies and this may have long term consequences (5, 33).

### **1.2.3.2 Socio economic effect**

Nationally, diversion of resources towards the production or importation and marketing of khat has a negative impact on the economies of khat consuming countries. The cultivation of khat results decreased production of other more essential crops like cereals, promoting malnutrition and diseases (5).

Khat chewing may have damaging effects from social and economic point of view. Some people may arrive at spending a great part of their income on khat, this will result inability to ensure vital needs for themselves and their families. The above facts and loss of sexual desire among male users after chewing may endanger family relationships (5, 15, 31)

In the communities where khat is consumed, there is a general agreement among observers that there is high incidence of absenteeism and decreased productivity, which lead to unemployment and poverty. In addition, use of other substances like tobacco and alcohol may aggravate the socioeconomic problems (15, 28, 34).

### **1.2.3.3 Effect on academic Performance**

Studies showed that Khat chewing has an effect on academic performance of students. Research conducted at different times among Jimma university students showed that the mean cumulative grade point average (CGPA) of khat chewers was found to be lower than that of non chewers (25, 35).

### **1.3 Justification**

Groups which are considered at high risk for substance abuse are students. Since students in the universities are in the domain of the young generation who can make a great contribution to their country and the world, knowing the problems they are facing and being involved can give great information in order to undertake corrective measures and solutions. These students are living without parental or guardian monitoring, supervision and support, which may heighten the probability of exposure to substance abuse. Studies on prevalence and associated factors of khat chewing among University of Gondar students were done 10 years ago and currently the numbers of students who join universities are rapidly grown, thus this study is timely to detect changes in khat chewing habit of students.

Understanding the factors associated with Khat use is crucial in the effort of design and delivery of interventions. Hence, the findings of this research may help policy makers to make informed decision to reduce negative consequence of Khat chewing.

## **2 Objectives**

### **2.1 General objective**

- To assess the prevalence of Khat chewing, associated factors and its influence on academic performance among University of Gondar students.

### **2.2 Specific objectives**

- To determine prevalence of Khat chewing among University of Gondar students.
- To identify factors associated with Khat chewing among University of Gondar students.
- To compare academic performance of khat chewers with non chewers among University of Gondar students.



### **3. Methods**

#### **3.1 Study design**

The study design was institution based cross sectional study design among University of Gondar students.

**3.2 Study period:** Study period was from February- September, 2011.

#### **3.3 Study area/setting**

The study was conducted in University of Gondar which is located in Gondar town, 730km away from the capital city of Ethiopia. Currently University of Gondar consists of four campuses (CMHS, Tewodros, Maraki and Atsie Fasil) and it runs bachelors, medical doctorates, postgraduates and certificates of specialty programs. According to the statistics obtained from the main office of the registrar, in 2010/2011 a total of 11,772 under graduate regular students were enrolled in all programs with female students accounting for 30%.

#### **3.4 Study population**

The source population for this study was all regular undergraduate students of University of Gondar enrolled in the academic year 2010/11.

#### **Inclusion criteria**

- ✓ Regular undergraduate students who are available at the time of data collection were included.

#### **Exclusion criteria**

- ✓ Blind regular undergraduate students who can't read the questionnaire.

### **3.6 Study variable**

#### **Dependent variable**

- Khat chewing habit

#### **Independent variables**

- Socio-demographic characteristics(age, sex, marital status, religion, Year of study, money received and place of upbringing )
- Family member chewing Khat
- Friends chew Khat
- Knowledge on socio-economic and health effect of khat chewing
- Use of other substance ( alcohol, cigarette smoking ,shisha, hashish)

#### **Operational Definitions**

1. Life time prevalence of Khat chewing: - the proportion of students who had ever chewed Khat in their life time.
2. Current prevalence of Khat chewing: -the proportion of students who are chewing Khat within 30 days preceding the study.
3. Ever Khat chewer: Some one who chewed Khat at least once in his/her life time.
4. Academic performance: - Last semester CGPA

### 3.7 Sample Size and sampling procedure

The sample size was calculated by using single population proportion formula. To determine sample size, the study considered a 17.5% prevalence of khat chewing obtained from a previous study among college students in Northwest Ethiopia (14), margin of error of 4%, and confidence interval of 95%. To compensate for non-response 15% of the sample was added.

$$\begin{aligned} n &= \frac{(Z_{1-\alpha/2})^2 \cdot P(1-P)}{d^2} \\ &= \frac{(1.96)^2 \times 0.175(1-0.175)}{(0.04)^2} \\ &= 347 \end{aligned}$$

Where, n = the sample size

Z = Critical value= 1.96

P= Prevalence= 17.5%

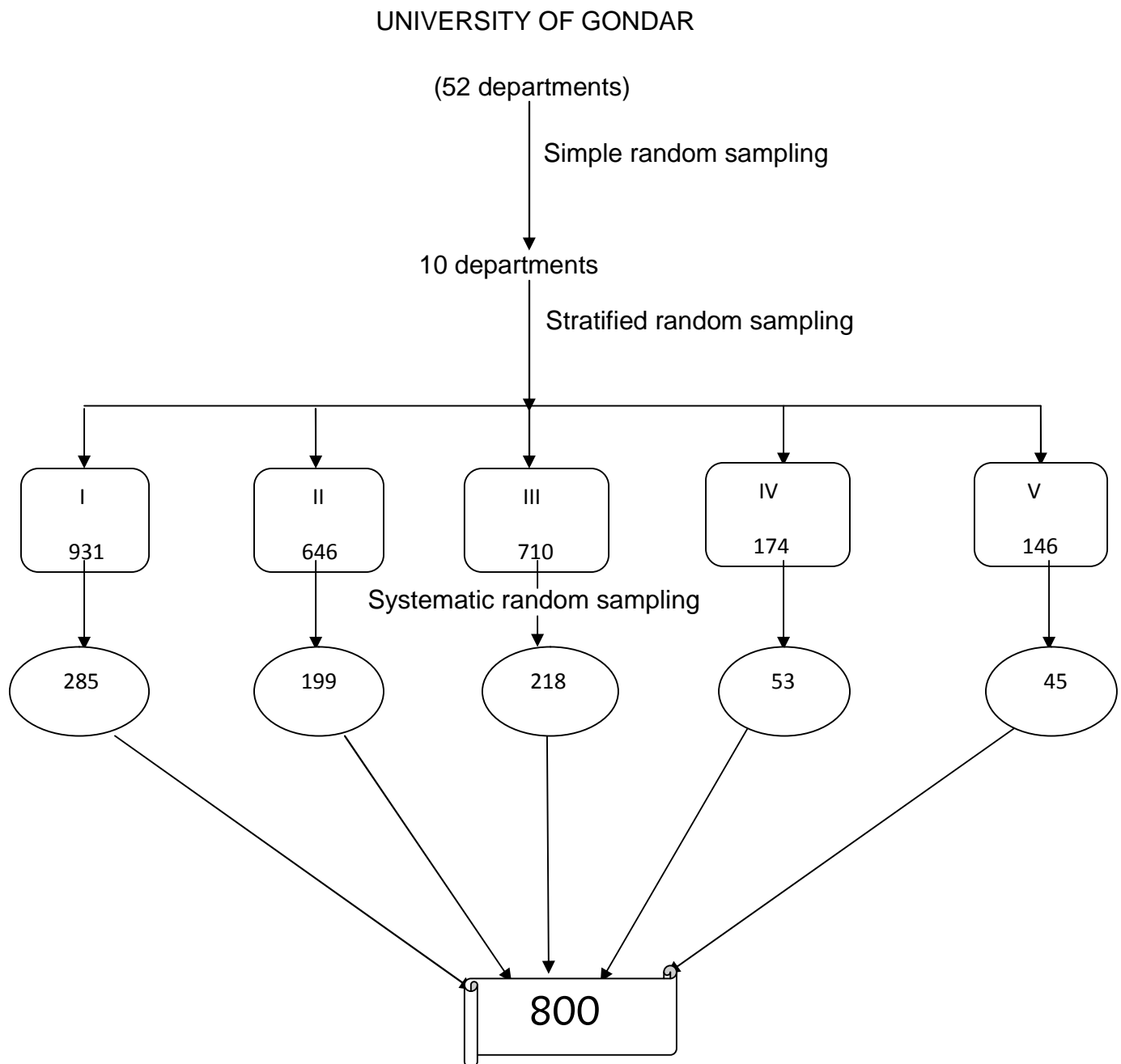
d= Margin of error= 4%

Due to the use of multi stage sampling technique, the sample was multiplied by a design effect of 2 and gives 694. Finally, by adding 15% of non response rate the final sample size was calculated to be 800.

### Sampling procedure

Multi stage sampling technique was employed. At the first stage ten departments were selected by using simple random sampling from a total of 52 departments at University of Gondar. At the second stage the selected departments were stratified based on year of study, subsequently; the total sample size was distributed proportionally to the selected departments based on total number of students in each year. Individual students from each stratum were selected by using systematic random sampling technique. The sampling interval was calculated by dividing the total number of students in each year by the number of students to be selected in the same year. A random starting number was then selected between 1 and sampling interval and subsequent subjects were selected by adding the sampling interval to the random Starting number. Once inside the classroom, starting from the front right hand seat of the class, a random number was picked and the required number of students was systematically selected.

Figure1: Schematic Presentation of Sampling procedure



### **3.8 Data collection**

A structured pre tested self administered questionnaire was utilized for data collection. The questionnaires were developed through a review of related Ethiopian and international literature. The data collection instrument was an anonymous structured questionnaire, which was prepared in English. The English version of the questionnaire was translated first to Amharic and back to English in order to ensure its consistency. The questionnaire sought information on socio-demographic characteristics, khat chewing habit with use of other substances, reasons for khat chewing and self reported cumulative grade point average (CGPA).

Data were collected by six diploma nurses after one day training was given prior to the data collection time. In addition to the principal investigator, two supervisors were assigned to lead the data collection, to check for completeness and consistency of a questionnaire, and to assist data collectors. The questionnaire was distributed to the selected students in the classroom and collected from May31-June2 2011. When the instructors were willing to allow the students to complete the questionnaire in the classroom, then the filled questionnaires were collected immediately.

### **3.9 Data quality control**

The quality of data was assured through careful design, translation and retranslation of the questionnaire as well as pretesting on 5% of the sample for relevant amendment. One day training was given to the data collectors and supervisors before the pretest. The supervisors and principal investigator had closely followed the day-to-day data collection process and ensure completeness and consistency of the collected questionnaire. Proper categorization and coding of the data were made.

### **3.10 Data management and analysis**

After data collection, each questionnaire was checked for completeness and consistency by supervisors and principal investigators, incompletely filled questionnaires were discarded. The data were entered into EPI info v 3.5.1 and exported to SPSS v 16.0 for analysis.

Descriptive statistics such as, frequencies, cross tabulations and summary statistics were computed to describe the study population in relation to relevant variables. Bivariate and multivariate analyses were also employed. Odds ratio with 95% confidence interval were computed to assess the presence and degree of association between dependent and independent variables. Independent sample t-test was employed for comparison.

#### **4. Ethical considerations**

Ethical clearance for the study was obtained from Institutional Review Board of School of Public Health. Official letter was written from School of Public Health to the concerned bodies to get permission and the first page of the questionnaire provided full information to the study participants regarding the purpose and nature of the research. Written Consent was obtained from each participant. Participation to the study was on voluntary basis, and participants were informed their right not to participate in the study if they do not want to participate. Moreover, confidentiality of the information was assured by using anonymous questionnaire.

## **5. Results**

### **5.1 Socio-demographic characteristics**

Out of eight hundred sampled participants, 736 responded giving a response rate of 92%. Five hundred eighty five (79.5%) of the respondents were in the age group 20-24 years. The mean age of respondents was 21 ( $\pm$  2.0) years. The minimum age was 17 and the maximum 46 years old. Out of 736 respondents 563(76.5%) students were male, 476(64.7%) Amhara, 564(76.6%) Orthodox Christian, 698 (94.8%) single and 381 (51.8%) of the students came from urban area. Two hundred seventy (36.7%) were first year students. Six hundred twenty two (84.5%) of respondents were receiving money in a range between 100-500birr on a monthly basis.

Table1: Socio-demographic characteristics of respondents at university of Gondar,  
Gondar town, Northwest Ethiopia, 2011

Characteristics		Number	Percent
Sex	Male	563	76.5
	Female	173	23.5
Age	15-19	123	16.7
	20-24	585	79.5
	≥25	28	3.8
Ethnicity	Amhara	476	64.7
	Oromo	101	13.7
	Tigrie	86	11.7
	Other	73	9.9
Religion	Orthodox	564	76.6
	Muslim	87	11.8
	Protestant	67	9.1
	Other	18	2.5
Marital status	Single	698	94.8
	Married	36	4.9
	Divorced	2	0.3
Place of	Urban	381	51.8
Upbringing	Rural	355	48.2
Income/mn	<100	63	8.6
	100-500	622	84.5
	>500	51	6.9
Year of Study	1 <sup>st</sup> year	270	36.7
	2 <sup>nd</sup> year	185	25.1
	3 <sup>rd</sup> year	191	26.0
	4 <sup>th</sup> year	50	6.8
	5 <sup>th</sup> year	40	5.4



## 5.2 Prevalence of khat chewing

The life time prevalence of khat chewing was found to be 27.7% and that of current prevalence was 16.4%. Among those who currently chew khat 52.1% chewed for  $\geq$  2years and 14.9% chew khat on daily basis. About 29.8% of the current chewers started chewing below the age of 18 years, the least age of initiation being 10years. On average the students started chewing khat at the age of 18.39 ( $\pm 3.07$ ) years. Twenty eight (23.1 %) of the current khat chewers started chewing when they were preparatory students followed by first year students (19.8%).

Table 2: Time of University of Gondar students started khat chewing, Gondar town, Northwest Ethiopia, 2011

Time of chewing started	Frequency	Percent
Elementary	11	9.1
High school	23	19.0
Preparatory	28	23.1
1 <sup>st</sup> year	24	19.8
2 <sup>nd</sup> year	21	17.4
3 <sup>rd</sup> year	11	9.1
4 <sup>th</sup> year	3	2.5

More khat use was seen among males (21%), Muslims (40.2%), students in the age group greater than or equal to 25 years (35.7%), respondents who up bring in urban areas (24.1%) and fifth year students (27.5%).nineteen (37.3%)respondents who were receiving money greater than 500 birr per month were khat chewers .

Among khat chewers forty one (33.9%) chew khat two-three times per week. The amount of khat consumed at one session was estimated per cost in birr, and fifty six (46.3%) of the chewers consume khat that costs 5-10 birr. Forty six (38.0%) of the chewers spent three hours per session.

Table 3: Pattern of khat chewing among University of Gondar students, Gondar town, Northwest Ethiopia, 2011

Chewing pattern(n=121)	Frequency	
	No	Percent
Chewing frequency		
Occasionally	22	18.2
Once a week	19	15.7
2-3 times a week	41	33.9
4-6 times a week	21	17.4
Daily	18	14.9
Duration of chewing		
< 1month	9	7.4
1-12month	25	20.7
1-2year	24	19.8
2-4year	24	19.8
≥4year	39	32.2
Money spent/session		
5-10	56	46.3
11-15	46	38.0
16-20	14	11.6
>20	5	4.1
Time spent/session (hours)		
1	10	8.3
2	39	32.2
3	46	38.0
>4	26	21.5

Various reasons for chewing khat were given by current chewers. The main reasons mentioned were to be alert while reading (81.2%) followed by relaxation (52.9%) and to avoid depression (33.9%). Seventy one (58.7%) of khat chewers had a feeling to stop chewing khat because of knowing that khat is bad for health (66.2%), spending lots of money for buying khat (21.1%), their families don't like it (7%) and their friends don't like it (5.6%).

Forty three (35.8% ) of khat chewers said that they share other people's khat, 30.8% borrow money from someone ,25.8 % reported they would not chew ,5.0% ask friends to buy it and 2.5% get credit from seller during lack of money for buying khat.

The usual places for chewing khat were dormitory (65.3%), Khat houses (17.4%) recreational areas (14.0%) and at rented dormitory (3.3%).One hundred five (86.8%) of the khat chewers usually preferred to chew khat during the afternoon, 9.1% at night and 4.1% said that they can chew at any time. Sixty five percent of the respondents reported that they usually chew khat with their girl/boy friend followed by with any body in the occasion (17.4%).

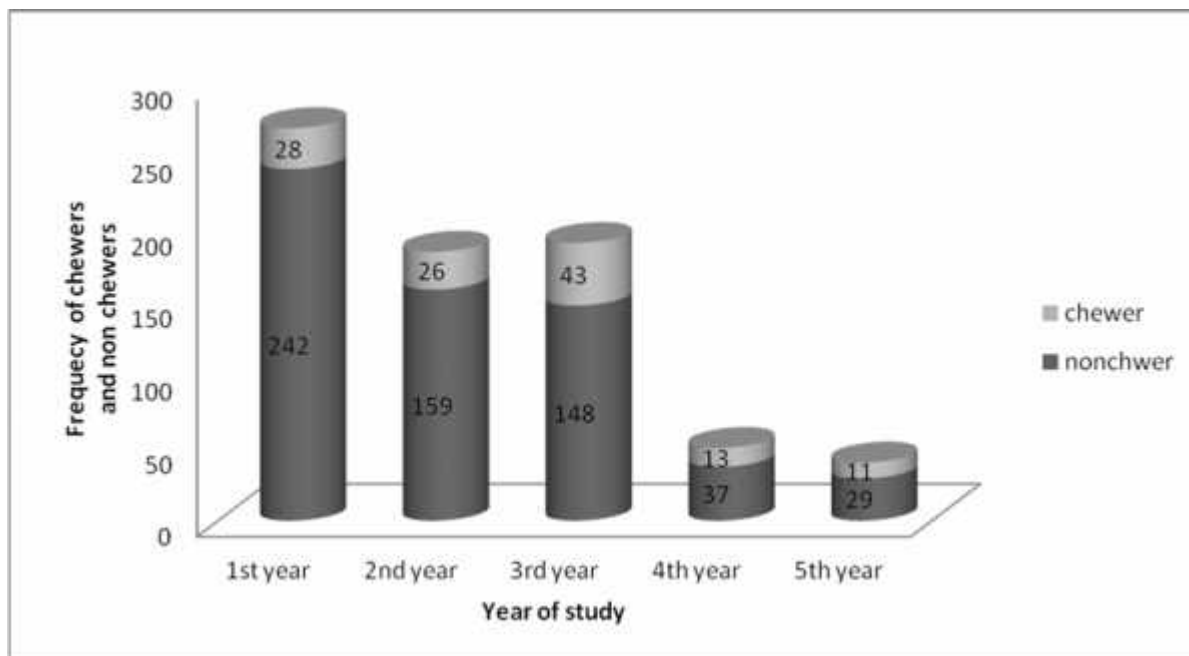


Figure2: Distribution of khat chewing in relation to year of study among University of Gondar students, Northwest Ethiopia, 2011

Twenty five (20.7%) of the Chewers usually smoke cigarette, 34(28.1%) drank coffee and 3(2.5%) take shisha during chewing. Only eleven (9.1%) of the khat chewers took alcohol after khat chewing to inhibit excitation (54.5%), to avoid insomnia (27.3%) and (18.2%) depression.

Seven hundred seventeen (97.4 %) of the respondents believed that khat chewing has health risk. Addiction 613 (85.5%), affect teeth 550(76.7%), Sleep disturbance 434 (60.5%) Gastro intestinal problem 409(57%), were few among others health problems reported by respondents, considered to be the result of khat Chewing.

Almost all (99.9%) of respondents said that khat chewing has socio-economic problem. Economic problem, disagreement with the family members, Criminal activity and rejection by the society were mentioned by 678(92.1%), 559(76.0%), 461(62.2%) and 402(54.6%) students respectively.

### **5.3 Factors associated with khat chewing habit**

The investigation on the presence of association between suspected categorical factors and khat chewing habit revealed the following results. On Bivariate analysis age, sex, religion, year of study, ethnicity , residence before joining university, amount of money received per month , family member chewing khat, friends chewing khat, ever use of alcohol, ever smoking of cigarette, and ever use of Shisha were significantly associated with khat chewing habit.

Multivariate analysis showed that being male by gender (AOR [95% CI]=9.37 [2.41,36.4]), Muslim by religion(AOR[95%CI]=4.15[1.83,9.41]), urban by residence (AOR [95% CI] = 1.94 [1.05,3.58]), ever alcohol use (AOR [95% CI] = 3.95 [2.03, 7.69]) and cigarette smoking (AOR [95% CI] =5.32 [2.32, 12.22]) were associated with khat chewing habit. The presence of khat chewers in the family (AOR [95%CI] =2.67[1.23, 5.80]) and among friends (AOR [95%CI] = 6.75[3.48, 13.06]) had also significant association with khat chewing habit.

Table 4: Factors associated with current khat chewing among University of Gondar, Students, Northwest Ethiopia, 2011

Variable		Current khat chew		Crude OR (95%CI)	Adjusted OR (95%CI)
		Yes	No		
Age	15-19	14	109	1.00	1.00
	20-24	97	488	1.548(0.851,2.813)	1.023(0.425,2.458)
	25	10	18	4.325(1.669,11.212)	1.656(0.381,6.432)
Sex	Female	3	170	1.00	1.00
	Male	118	445	15.026(4.713,47.905)	<b>9.369(2.409,36.441)*</b>
Religion	Orthodox	72	492	1.00	1.00
	Muslim	35	52	4.599(2.804,7.543)	<b>4.152(1.832,9.409)*</b>
	Protestant	11	56	1.342(0.672,2.682)	0.816(0.261,2.558)
	Others	3	15	1.367(0.386,4.837)	1.434(0.294,6.996)
Ethnicity	Tigrie	10	76	1.00	1.00
	Oromo	23	78	2.241(1.000,5.002)	1.262(0.398,4.002)
	Amhara	64	412	1.181(0.580,2.401)	1.365(0.528,3.527)
	Others	24	49	3.772(1.639,8.456)	2.849(0.907,8.948)
year of study	1st year	28	242	1.00	1.00
	2nd year	26	159	1.413(0.799,2.499)	1.826(0.815, 4.090)
	3rd year	43	148	2.511(1.496,4.215)	1.950(0.898, 4.233)
	4th year	13	37	3.037(1.444,6.385)	2.642(0.897, 7.672)
	5th year	11	29	3.278(1.478, 7.272)	0.789(0.239, 2.604)
Place of up bringing	Urban	92	289	3.579(2.290,5.592)	<b>1.937(1.049,3.575)*</b>
	Rural	29	326	1.00	1.00
Income/month (birr)	<100	5	58	1.00	1.00
	100-500	97	525	2.143(0.838,5.480)	1.126(0.354,3.584)
	>500	19	32	6.887(2.349,20.191)	3.387(0.796,14.415)
Family chewing khat	Yes	38	72	3.453(2.189,5.447)	<b>2.665(1.225,5.796)*</b>
	No	83	543	1.00	1.00
Friends chewing khat	Yes	104	193	13.376(7.793,22.961)	<b>6.745(3.483,13.063)*</b>
	No	17	422	1.00	1.00

1.00=Referent category

Table 5: Association between current khat chewing and use of other substance among University of Gondar students, Northwest Ethiopia, 2011

Variables		Current khat chew		Crude OR(95%CI)	Adjusted OR (95%CI)
		Yes	No		
<b>Ever Alcohol Intake</b>	Yes	84	171	5.895(3.854,9.017)	<b>3.948(2.026,7.694)*</b>
	No	37	444	1.00	
<b>Ever Cigarette Smoking</b>	Yes	50	18	23.357(12.918,42.231)	<b>5.320(2.316,12.217)*</b>
	No	71	597	1.00	
<b>Ever Shisha use</b>	Yes	18	2	53.563(12.245,234.291)	4.522(0.783,26.119)
	No	103	613	1.00	

#### 5.4 Khat chewing habit and academic performance

Significant difference has been seen in the mean CGPA of Current khat chewers versus non chewers ( $p = 0.015$ , 95%CI 0.0195 and 0.1758).

Table6: Comparison of academic performance (CGPA) of current khat chewers with non chewers among University of Gondar Students, Northwest Ethiopia, 2011

Variable		Mean CGPA $\pm$ SD	t-test for equality of means				
			T	p-value	Mean Difference	95% CI of the difference	
						Lower	Upper
Current khat Chewing	yes	2.68 $\pm$ 0.45	2.465	0.015	0.098	0.0195	0.1758
	No	2.78 $\pm$ 0.39					

## **6. Discussion**

In this study the current prevalence of khat chewing was found to be 16.4%, which is almost similar to study conducted among college students of Northwest Ethiopia (17.5%) (14). This could be due to the fact that both studies were conducted in the same locality. From this finding it can be said that, though students are aware of the health and socio economic effect of khat chewing, there is no remarkable change in their behavior towards the habit.

Similar studies done among Jimma university students at different time found current prevalence of khat chewing 24.79% and 33.1% respectively, which is higher than the current study findings (25, 35). The possible explanation could be; Social acceptance to the habit and also Jimma is one of the known khat growing town where the students can have a better access to khat which finally could have increased the prevalence.

Similar studies among university staffs of Jimma in 2004 (19) and Northwest Ethiopia in 2001(24) found the prevalence of 30.8% and 21.0% respectively which is higher than the current study. This could possibly be due to the fact that university staffs are in a position to afford the cost for khat when compared to students.

In this study on average one chewer was found to spend 12.57birr per session. This indicates that the money spent by students for khat is high. When these students had no money to buy khat, they could be involved in criminal activities. Even after graduation these people will spend a great part of their income for khat which can affect their economy.

The current study revealed that 23.1 % of the chewers started chewing when they were preparatory school students. The next critical time to start these practices is first year which is 19.8 %. The mean age for starting khat chewing was 18.39years. This is almost similar with what was reported in 2001 among college students of Northwest Ethiopia (14). This could possibly be due to the fact that most of them are adolescence and during this period peer pressure has a significant role for starting such habit.

Additionally first year students are new to university environment in that the style of teaching is different and the contents to learn are many when compared to preparatory and high school, this may lead to stress, and a means of escape from the stress the students might have started khat chewing.

The main reasons mentioned for khat chewing were to be alert while reading, for relaxation with friends, and to avoid depression. This finding is similar to previous reports and it shows that khat has a psycho-stimulants effect (19, 35).

In this study khat chewing was found to be more prevalent ( $p=0.001$ ) among males than females and this is consistence with other research findings (19, 25, 26). This could be because females are culturally more restricted than males.

In the current study khat chewing has shown significant association with religion and Muslim students were found to be khat chewers as compared with students of other religion. The possible reason could be because the habit of khat chewing is socially accepted among Muslim communities. This finding is in line with studies conducted in different places (5, 25).

This study showed that the habit of khat chewing was higher among students who up bring in urban than rural ( $p=0.035$ ) and this finding is inline with a study conducted in Jimma university students (35). This may be because of cultural influence on rural community.

The habit of khat chewing by family members and friends has significant association with khat chewing habit of students which is in line with research findings (14, 25). This could be due to the fact that young people tend to imitate and exercise what they observe from their elders, parents and friends.



The statistical significant association between khat chewing and cigarette smoking ( $P < 0.001$ ) in this study is in line with findings from other studies done in different study area and population (5, 28, 35). Khat chewing was also significantly associated with alcohol intake ( $p < 0.001$ ). This finding is supported by other reports (19, 22, 28, 35)

Khat chewers are believed to take alcohol to break the stimulant effect of khat after long hours of stimulation. However, it was found in present study that a very low number of khat chewers (9.1%) take alcohol after chewing. The possible explanation could be most students chew khat to be alert while reading due to this reason they may not need to break the stimulant effect.

In the present study significant association was not found between khat chewing habit and member ship of specific ethnic group, age group and monthly Income. In a study conducted among Jimma university students a statistical significant association was found between monthly income and khat chewing habit (35).

According to the current study those who chew khat had a lower academic performance as compared with those who didn't chew khat. Studies done at different times among Jimma university students support this finding. A study done in 2002 among Jimma university students revealed that the mean cumulative grade point average (CGPA) of non-chewers was found to be significantly higher ( $p < 0.001$ ) than that of chewers and also in 2008 in the same university revealed that there was statistically significant difference ( $p < 0.05$ ) between the mean CGPA of chewers and non-chewers (25, 35). This shows that khat chewers have lower academic performance when compared with non chewers. The possible explanation is that the associated valuable time and energy wastage for khat ceremony. On the other way students with lower academic performance may engage in the habit hoping that khat chewing will improve their academic performance.

## **7. Limitations of the study**

- Some students might not give genuine information and might underestimate the magnitude of the habit.

## **8. Conclusions**

In general the prevalence of khat chewing is almost the same as it was ten years back.

Gender, religion, place of up bringing, family member chewing khat, friends chewing khat, alcohol intake and cigarette smoking have shown significant association with the habit of khat chewing.

The mean cumulative grade point average (CGPA) of non chewers was significantly higher than that of chewers.

## **9. Recommendations**

- ✓ The university needs to have strict controlling mechanism regarding to the implementation of rules and regulations on substance abuse.
- ✓ Preparatory schools need to teach their students about the effect of khat chewing.
- ✓ Parents and elders have to be role models by not chewing khat.
- ✓ Further analytic studies need to be carried out to investigate the effect of khat chewing on academic achievement, particularly among students before a conclusive statement could be made.

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## **11. Annex**

### **11.1 Information Sheet and Consent Form**

#### **Title of the Research Project**

Assessment on prevalence of Khat chewing, associated factors and its influence on academic performance among University of Gondar students.

**Name of Principal Investigator:** Wondimu G/kiros

**Name of the Organization:** University of Gondar, College of Medicine and Health Sciences, School Of Public Health.

**Sponsor for the project:** principal investigator

#### **Purpose of the Research Project**

The aim of this study is to assess prevalence of khat chewing and associated factors among University of Gondar students.

#### **Procedure**

In order to assess prevalence and associated factors of khat chewing among university students, we invite you to take part in the study. If you are willing to participate, you need to understand and sign the consent form then you will be requested to give your response by the data collectors.

For this questionnaire based study, study subjects are all regular students in 2010/2011 academic year, and selected by sampling technique. All the response given by participants and the result obtained will be kept confidentiality by using coding system whereby no one will have access to your response.

#### **Risk and /or Discomfort**

There is no risk in participating in this research project except wasting your time (20-25 minutes).



## **Benefits**

If you are participating in this research project, there may not be direct benefit to you but your participation is likely to help us in showing the existing level of khat chewing and associated factors among university students. This may help to design and deliver interventions for the target groups. You will not be provided any incentives or payment to take part in this project.

## **Confidentiality**

The information collected for this research project will kept confidential and information about you that will be collected by this study will be stored in a file without your name.

## **Right to Refusal or Withdraw**

You have the full right to refuse from participating in this research and withdraw from this study at any time you wish, without losing any of your right.

## **Person to contact**

If you have any question you can contact the principal investigator with the following address.

Wondimu G/kiros - Mobile: +251918786289

## Study consent

- Are you willing to participate in the study? Make a tick ( ) on your choice.

Yes ☐

No ☐

**የመረጃ እና የስምምነት ዉል ፎርም**

**የምርምር ፕሮጀክቱ ርዕስ:-** በጎንደር ዩኒቨርሲቲ በሚገኙ ተማሪዎች ላይ በጫት መቃም ፡ ተያያዥ ጉዳዮች እና በትምህርት ዉጤት ላይ ባለዉ ተፅዕኖ     ዙሪያ ጥናት ለማድረግ የተዘጋጀ መጠይቅ።

**የተመራማሪው ስም:-**ወንድሙ ገ/ኪሮስ

**የድርጅቱ ስም:-** በጎንደር ዩኒቨርሲቲ ህክምና እና ጤና ሳይንስ ኮሌጅ የህብረተሰብ ጤና አጠባበቅ ትምህርት ክፍል።

**ወጭውን የሚሸፍነው:-** ተመራማሪው

**የጥናቱ አላማ:-** በጎንደር ዩኒቨርሲቲ በሚገኙ ተማሪዎች ላይ በጫት መቃም እና ተያያዥ ጉዳዮች ዙሪያ ጥናት ማድረግ ነዉ።

**አተገባበር**

በጫት ቃሚዎች ብዛት እና ተያያዥ ጉዳዮች ዙሪያ በሚያጠና ጥናት ላይ ድርሻ እንዲኖርዎ ጋብዘንዎታል። በጥናቱ ለመሳተፍ ፈቃደኛ ከሆኑ የውል ፎርሙን ተረድተው ምልክት ማድረግ አለብዎት ከዚያም በመረጃ ሰብሳቢዎች መልስ እንዲሰጡ ይጠየቃሉ።

በዚህ መጠይቅ ላይ ለተመሰረተ ጥናት የጥናቱ ተሳታፊዎች የጎንደር ዩኒቨርሲቲ የ2003 ዓ.ም መደበኛ ተማሪዎች ናቸው፤ ዕርስዎም በዕጣ ነው የተመረጡት። የሚሰጡት መልስ ባጠቃላይ እና የጥናቱ ውጤት ማንም በማያገኘው መለያ ቁጥር ሚስጥራዊነቱ የተጠበቀ ይሆናል።

**ሊገጥም የሚችል ችግር ወይም አለመመቸት**

መጠነኛ ከሆነ የሰዕት ብክነት በስተቀር(20-25 ደቂቃዎች) በዚህ ጥናት በመሳተፍዎ የሚደርስብዎ ችግር የለም።

**ጥቅሞች**

በዚህ ምርምር በመሳተፍዎ በቀጥታ ሊያገኙት የሚችሉት ጥቅም ላይኖር ይችላል ነገር ግን የዕርስዎ ተሳትፎ በዩኒቨርሲቲ ተማሪዎች ያለውን የጫት መቃም እና ተያያዥ ጉዳዮች ለማየት ይረዳል ይህም የመፍትሄ ሀሳብ ለማቀድ እና ውሳኔ ለመስጠት ይጠቅማል። በዚህ ምርምር በመሳተፍዎ ምንም ማበረታችያ ወይም ክፍያ አይሰጥዎትም።

**ሚስጥራዊነት**

በዚህ ምርምር ፕሮጀክት የተሰበሰበ መረጃ ሚስጥራዊ ይሆናል። ስለ ዕርስዎ የሚሰበሰቡት መረጃዎች ስም ሳይፃፍበት በዶሴ ይከማቻል።

**ዕንቢ የማለት ወይም የማቋረጥ መብት**

በዚህ ምርምር ተሳትፎ ያለማድረግ እንዲሁም በማንኛውም ሰዐት ማንኛውንም መብትዎን ሳያጡ የማቋረጥ መብት መብት አለዎት።

**ሊያገኙቸው የሚችሉት ሰው**

ጥያቄ ካለዎት ከዚህ በታች ባለው አድራሻ ተመራማሪውን ማግኘት ይችላሉ።

ወንድሙ ገ/ኪሮስ፡- +251918786289

**የጥናቱ ስምምነት መግለጫ**

በጥናቱ ውስጥ ለመሳተፍ ፍቃደኛ ነህ/ሽ? ምርጫህን/ሽን ከስር በተዘጋጀው ሳጥን ውስጥ የ(✓) ምልክት አድርግ/ጊ

አዎ ፈቃደኛ ነኝ

☐

ፍቃደኛ አይደለሁም

☐

9.2 Questionnaire on prevalence of Khat chewing, associated factors and its influence on academic performance among University of Gondar students.

PART ONE: SOCIO-DEMOGRAPHIC CHARACTERSTICS			
S.no	Questions	Responses	Skip
Q101	Sex of respondent?	1.Female 2.Male	
Q102	How old are you?	_____Age in completed year	
Q103	What is your religion?	1. Orthodox. 2. Muslim 3. protestant 4. catholic 5. other(specify)_____	
Q104	What is your ethnicity?	1. Amhara 2. Oromo 3. Tigrie 4. Other (specify ) _____	
Q105	what is your Marital Status?	1. Single 2. Married 3. Divorced 4. Widowed	
Q106	Residence before university	1.urban 2.rural	
Q107	How much money on average was sent to you per month?	_____birr	
Q108	What is name of the campus?	Write name of your campus _____	

Q109	What is your department?	Write name of your department_____	
Q110	In which year of study are you?	_____	
Q111	What is your last semester CGPA?	_____	
PART TWO:QUESTIONS ABOUT KHAT USE			
Q201	Have you ever chewed Khat?	1.Yes 2.No _____➔	Skip to Q 301
Q202	For how long have you chewed?	1.<1month 2.1-12month 3.1-2year 4.2-4year 5.>4year	
Q203	Have you chewed Khat within the last 30 days?	1. Yes 2. No _____➔	Skip to Q 301
Q204	How often did you chew khat?	1.occassionally 2.once per week 3.Two times per week 4.Three -times per week 5.four times per week 6.five times per week 7.six times per week 8.daily	
Q205	When did you start khat chewing?	1.Elementary school 2.high school 3.preparatory school	

		4.1 <sup>st</sup> year 5.2 <sup>nd</sup> year 6.3 <sup>rd</sup> year 7.4 <sup>th</sup> year 8.5 <sup>th</sup> year 9.6 <sup>th</sup> year	
Q206	How old were you when you first chew khat?	_____ year	
Q207	Where do you usually chew khat?	1.At khat house 2.At dormitory 3. At recreational areas 4. Other (Specify) _____	
Q208	When do you usually chew khat?	1. In the morning 2. In the afternoon 3. At night 4. At any time 5. Other (Specify) _____	
Q209	With whom do you usually chew khat?	1. alone 2. with my peer friends 3. with my girlfriend/boy friend 4. with anybody in that occasion 5. Other (Specify) _____	
Q210	On average, how much time do you spend on Chewing khat session? (Put in hours)	. _____hours	
Q211	On average, how much money did you spend for each session?	_____ Birr	

Q212	What do you do if you don't get money for khat?	1.I will ask my friends/family to buy it 2.I will borrow money from some one 3.I will get credit from seller 4.I will share other people's khat 5. Other (Specify) _____	
Q213	Why do you chew khat? (Multiple response is possible)	1.Relief stress 2.To keep alert while reading 3.For relaxation with friends 4.Peer pressure 5. Family members chew khat 6. Religious reasons 7. Other(Specify) _____	
Q214	What do you usually take with khat? (multiple response is possible)	1. I drink alcohol 2. I drink coffee 3. I smoke cigarette 4. I drink soft drinks 5. hashish 6.shisha 7. Other (Specify ) _____	
Q215	Do you take alcohol after chewing?	1.Yes 2. No _____➡	Skip to Q 217
Q216	Why did you take alcohol after chewing?	1.To avoid insomnia 2.To avoid depression 3.To inhibit excitation 4.other (specify)_____	
Q217	Have you ever felt that you need to stop khat Chewing?	1. Yes 2. No _____➡	skip to Q 301
Q218	What is your reason for feeling to stop khat Chewing?	1. My families don't like it 2. My friends don't like it 3. I'm spending a lots of money for khat	

		4. I know that khat is bad for health 5. Other (Specify) _____	
PART THREE: ABOUT FACTORS ASSOCIATED WITH KHAT CHEWING			
Q301	Have you ever drunk alcohol?	1.yes 2.no →	Skip to Q 303
Q302	How frequent do you drink alcohol?	1. Every day 2. Every week 3. Every month 4. Sometimes 5. On holydays 6.I have already stopped drinking alcohol	
Q303	Have you ever smoked cigarette?	1.yes 2.no →	Skip to Q 305
Q304	How many cigarettes did you smoke per day?	1.one-three cigarette per day 2.four-nine cigarette per day 3.greater than nine cigarette per day 4.I smoke cigarette occasionally 5. I already stopped smoking cigarette	
Q305	Have you ever used hashish?	1.yes 2.no →	Skip to Q 307
Q306	How frequent do you use Hashish?	1. Every day 2. Every week 3. Every month 4. Sometimes 5. On holydays 6. I have already stopped using hashish	
Q307	Have you ever used Shisha?	1.yes 2.no →	Skip to Q 309



Q308	How frequent do you use Shisha?	1. Every day 2. Every week 3. Every month 4. Sometimes 5. On holydays 6. I have already stopped using shisha	
Q309	Do any of your family members chew khat?	1. Yes 2. No	
Q310	Do any of your friends chew khat?	1. Yes 2. No	
PART FOUR: KNOWLEDGE ON HEALTH AND SOCIO-ECONOMIC EFFECT OF KHAT CHEWING			
Q401	Does khat chewing have a health risk?	1. Yes —————→ 2. No 3. I do not know	Skip to Q 402
Q402	If yes, What kind of health risk did khat chewing cause?	1. Addiction. 2. Gastro-intestinal problem like constipation 3. Affect teeth 4. decreases sexual feeling 5. Increase susceptibility to many disease 6. Cancer 7. other specify—————	
Q403	Does khat chewing have socio-economic problem?	1. Yes —————→ 2. No	Skip to Q 404

Q404	If yes, what kind of socio- economic problem did khat chewing cause? (multiple response is possible)	1. Disagreement with the family members 2.rejection by the society 3.economic problems 4.Criminal activity 5.Other specify_____	
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THANK YOU VERY MUCH FOR TAKING TIME TO FILL THIS QUESTIONNAIRE

**11.3 በጎንደር ዩኒቨርሲቲ በሚገኙ ተማሪዎች ላይ በጫት መቃም ፡ ተያያዥ ጉዳዮች እና በትምህርት ዉጤት ላይ ባለዉ ተፅዕኖ ዙሪያ ጥናት ለማድረግ የተዘጋጀ መጠይቅ**

<b>ክፍል አንድ:-ስለግለሰቡ አጠቃላይ ሁኔታዎች የሚመለከቱ ጥያቄዎች</b>			
<b>ተ. ቁ</b>	<b>ጥያቄዎች</b>	<b>አማራጭ መልሶች</b>	<b>ይለፍ</b>
101	ጾታ	1. ሴት 2. ወንድ	
102	እድሜህ/ሽ ስንት ነው?	_____ አመት	
103	ሀይማኖትህ/ሽ?	1. ኦርቶዶክስ 2. ሙስሊም 3. ፕሮቴስታንት 4. ካቶሊክ 5. ሌላ ካለ ይገለፅ _____	
104	የየትኛው ብሄር አባል ነህ/ሽ?	1. አማራ 2. ኦሮሞ 3. ትግሬ 4. ሌላ ካለ ይገለጽ _____	
105	የትዳር ሁኔታ	1. ያላገባ/ች 2. ያገባ/ች 3. የተፋታ/ች 4. በሞት የተለየ	
106	የመኖሪያ ቦታ (ዩኒቨርሲቲ አመግባትዎት በፊት)	1. ከተማ 2. ገጠር	
107	በአካማይ በወር ስንት ብር ይላክልህል/ሻል?	_____ ብር	
108	የካምፓስ ስም	የካምፓስህን/ሽን ስም ጻፍ/ፊ _____	

109	የየትኛው ትምህርት ክፍል ተማሪ ነህ/ሽ?	የትምህርት ክፍሉን ስም ጻፍ/ፊ _____	
110	የስንተኛ አመት ተማሪ ነህ/ሽ?	_____	
111	ባለፈው የትምህርት መንፈቅ አመት አጠቃላይ አማካይ ውጤትህ/ሽ ስንት ነበር?	_____	
<b>ክፍል ሁለት፡- ስለጫት አጠቃቀም የሚመለከቱ ጥያቄዎች</b>			
201	እስከ ባሪ በህይወትህ/ሽ ጫት ቅመህ/ሽ ታውቃለህ/ቂያለሽ?	1. አዎ አውቃለሁ 2. አላውቅም _____→	ወደጥያቄ ቁጥር 301 ይለፉ
202	ለምን ያህል ጊዜ ጫት ቅመህ/ሽ ታውቃለህ/ቂያለሽ?	1.አንድ ወር በታች 2.ከ1-12ወር 3.ከ1-2 አመት 4.ከ2-4 አመት 5.ከ4አመት በላይ	
203	ባለፉት 30 ቀናቶች ውስጥ ጫት ቅመህ/ሽ ታውቃለህ/ቂያለሽ?	1. አዎ አውቃለሁ 2. አላውቅም _____→	ወደጥያቄ ቁጥር 301 ይለፉ
204	ምን ያህል ጊዜ ጫት ትቅማለህ/ሽ?	1.አንዳንድ ጊዜ 2.በሳምንት አንድ ጊዜ 3.በሳምንት ሁለት ጊዜ 4.በሳምንት ሶስት ጊዜ 5.በሳምንት አራት ጊዜ	

		6.በሳምንት አምስት ጊዜ 7.በሳምንት ስድስት ጊዜ 8.በየቀኑ	
205	ጫት መቃም መቸ ጀመርክ/ሽ?	1.አንደኛ ደረጃ ተማሪ ሳለሁ 2.ሁለተኛ ደረጃ ተማሪ ሳለሁ 3.የፕሪፓራቶሪ ተማሪ ሳለሁ 4.የመጀመሪያ አመት ተማሪ ሳለሁ 5.ሁለተኛ አመት ተማሪ ሳለሁ 6.ሶስተኛ አመት ተማሪ ሳለሁ 7.አራተኛ አመት ተማሪ ሳለሁ 8.አምስተኛ አመት ተማሪ ሳለሁ 9.ስድስተኛ አመት ተማሪ ሳለሁ	
206	መጀመሪያ ጫት የቃምክ/ሽ ጊዜ እድሜህ/ሽ ስንት ነበር?	_____ አመት	
207	ጫት መቃም ስትፈልግ/ጊብዙውን ጊዜ የት ነው የምትቅመው / የምትቅሚው?	1.ጫት ቤቶች ውስጥ 2.ዶርም ውስጥ 3.መዝናኛ ቦታ 4.ሌላ ካለ ይገለጽ _____	
208	ብዙውን ጊዜ ጫት መቼ ነው የምትቅመው/ሚው?	1. ጠዋት 2. ከሰዓት በኋላ 3. በምሽት 4. በማንኛውም ጊዜ 5. ሌላ ካለ ይገለጽ _____	
209	ብዙውን ጊዜ ከማን ጋር ሆነህ/ሽ ነው የምትቅመው/ሚው?	1. ብቻየን 2. ከአቻ ጓደኞቼ ጋር 3. ከሌት/ ወንድ ጓደኛዬ ጋር 4. ከማንኛውም ሰው ጋር 5. ሌላ ካለ ይገለጽ _____	

210	በአማካይ አንድ ጊዜ ጫት ለመቃም ምን ያክል ጊዜ ታወላለህ/ያለሽ?	_____ ሰዓት	
211	በአማካይ አንድ ጊዜ ጫት ለመቃም ምን ያክል ብር ታወጣለህ/ጫለሽ?	_____ ብር	
212	ለጫት መቃሚያ የሚሆን ገንዘብ ብታጣ/ጨ ምን ታደርጋለህ/ጊያለሽ?	<p>1. ንደኞቹን ወይም ቤተሰቦቹን እንዲገዙልኝ እጠይቃለሁ</p> <p>2. ከሌላ ሰው እበደራለሁ</p> <p>3. ከጫት ቤት በዱቤ እወስዳለሁ</p> <p>4. ሌሎች ሰዎች የገዙትን ጫት በጋራ እጠቀማለሁ</p> <p>5. ሌላ ካለ ይገለጽ _____</p>	
213	ጫት ለምንድን ነው የምትቅመው/ሚው ? (ከአንድ በላይ መልስ መስጠት ይቻላል)	<p>1. ድብርትን ለማስወገድ</p> <p>2. በጥናት ጊዜ ንቁ ለመሆን</p> <p>3. ከንደኞቹ ጋር ለመደሰት</p> <p>4. በንደኞቹ ግፊት</p> <p>5. በቤተሰብ ውስጥ የሚቅም ሰው ስላለ</p> <p>6. ከሀይማኖት ጋር ስለሚያያዝ</p> <p>7. ሌላ ካለ ይገለጽ _____</p>	
214	ብዙውን ጊዜ ጫት ስትቅም/ሚ ምን አብረህ/ሽ ትጠቀማለህ/ሚያለሽ? (ከአንድ በላይ መልስ መስጠት ይቻላል)	<p>1. አልኮል መጠጥ እጠጣለሁ</p> <p>2. ቡና እጠጣለሁ</p> <p>3. ሲጋራ አጨሳለሁ</p> <p>4. ለስላሳ እጠጣለሁ</p> <p>5. ሀሽሽ እጠቀማለሁ</p>	

		6. ሽሻ አጠቀማለሁ 7. ሌላ ካለ ይገለጽ _____	
215	ጫት ከቃምክ/ሽ በኋላ የአልኮል መጠጥ ትጠጣለህ/ጫለሽ?	1.አዎ እጠጣለሁ 2.አልጠጣም _____→	ወደ ጥያቄ ቁጥር 217 ይለፉ
216	ለምን ጫት ከቃምክ/ሽ በኋላ አልኮል መጠጥ ትጠጣለህ/ጫለሽ?	1.እንቅልፍ ማጣትን ለመከላከል 2.ድብርትን ለመከላከል 3.ምርቃናውን ለመስበር/ለማስወገድ 4.ሌላ ካለ ይገለጽ _____	
217	ጫት መቃም ማቆም አለብኝ ብለህ/ሽ አስበህ/ሽ/ታውቃለህ/ቂያለሽ?	1.አዎ አውቃለሁ 2.አላውቅም _____→	ወደ ጥያቄ ቁጥር 301 ይለፉ
218	ጫት መቃም ማቆም አለብኝ ብለህ/ሽ እንድታስብ/ቢያደረገህ/ሽ ምክንያት ምንድን ነው?	1.ቤተሰቦቼ ጫት መቃሜን አልወደዱትም 2. ጓደኞቼ ጫት መቃሜን አልወደዱትም 3.ለጫት ብዙ ገንዘብ እያወጣሁ ስለሆነ 4.ጫት መቃም ለጤና ጎጂ እንደሆነ ስለማውቅ 5. ሌላ ካለ ይጠቀስ _____	
<b>ክፍል ሶስት:- ከጫትመቃም ጋር ተያያዥነት ስላላቸው ነገሮች</b>			
301	እስከ ዛሬ በህይወትህ/ሽ የአልኮል መጠጥ ጠጥጠህ/ሽ ታውቃለህ/ቂያለሽ?	1. አዎ 2. አላውቅም _____→	ወደ ጥያቄ ቁጥር 303 ይለፉ

302	የአልኮል መጠጥ በየስንት ጊዜው ትጠጣለህ/ጫለሽ?	1. በየቀኑ 2. በየሳምንቱ 3. በየወሩ 4. አንዳንድ ጊዜ 5. በበዓላት 6. አልኮል መጠጣት አቁሜለሁ	
303	እስከ ሳጤ በህይወትህ/ሽ ሲጋራ አጭሰህ/ሽ ታውቃለህ/ቂያለሽ?	1. አዎ 2. አላውቅም →	ወደ ጥያቄ ቁጥር 305 ይለፉ
304	በቀን ምን ያህል ሲጋራ ታጨሳለህ/ሻለሽ?	1. ከአንድ እስከ ሶስት ሲጋራ 2. ከአራት እስከ ዘጠኝ ሲጋራ 3. ከ ዘጠኝ ሲጋራ በላይ 4. ሲጋራ አልፎ አልፎ ነው የማጨሳው 5. ሲጋራ ማጨስ አቁሜለሁ	
305	እስከ ሳጤ በህይወትህ/ሽ ሀሽሽ ተጠቅመህ/ሽ ታውቃለህ/ቂያለሽ?	1. አዎ 2. አላውቅም →	ወደ ጥያቄ ቁጥር 307 ይለፉ
306	በየስንት ጊዜው ነው ሀሽሽ የምትጠቀመው/ሚው?	1. በየቀኑ 2. በየሳምንቱ 3. በየወሩ 4. አንዳንድ ጊዜ 5. ሌላ ካለ ይገለጽ _____ 6. ሀሽሽ መጠቀም አቁሜለሁ	
307	እስከ ሳጤ በህይወትህ/ሽ ሽሻ ተጠቅመህ/ሽ ታውቃለህ/ቂያለሽ?	1. አዎ 2. አላውቅም →	ወደ ጥያቄ ቁጥር 309 ይለፉ



308	በየሰንት ጊዜው ነው ሺሻ የምትጠቀመው/ሚው?	1. በየቀኑ 2. በየሳምንቱ 3. በየወሩ 4. አንዳንድ ጊዜ 5. ሌላ ካለ ይገለጽ _____ 6. ሽሻ መጠቀም አቁሜለሁ	
309	ከቤተሰብ አባላት ውስጥ ጫት የሚቅም ሰው አለ?	1. አዎ አለ 2. የለም	
310	ከጓደኞችህ /ሽ መካከል ጫት የሚቅም ሰው አለ?	1. አዎ አለ 2. የለም	
<b>ክፍል አራት፡-ጫት በጤና፣በማህበራዊ እና በኢኮኖሚ ላይ ስለሚያደርሰው ጉዳት ያላቸው ግንዛቤ</b>			
401	ጫት መቃም ለጤና አደጋ አለው ብለህ/ሽ ታስባለህ/ቢያለሽ?	1. አዎ <span style="float: right;">—————→</span> 2. የለውም 3. አላውቅም	ወደ ጥያቄ ቁጥር402 ይለፉ
402	አዎ ካሉ፣ጫት መቃም ምን አይነት የጤና ችግር ያመጣል? (ከአንድ በላይ መልስ መስጠት ይቻላል)	1. ሱስ 2. የጨንፈር እና የአንጀት ችግር፡ሆድ ድርቀት 3. የጥርስ መበላሸት 4. የወሲብ ፍላጎት መቀነስ 5. ለተለያዩ በሽታዎች ተጋላጭነትን ይጨምራል 6. ካንሰር 7. እንቅልፍ ማጣት 8. ሌላ ካለ ይገለፅ _____	

403	ጫት መቃም ማህበራዊ እና ኢኮኖሚያዊ ጉዳት ያመጣል?	1.አዎ —————→ 2.አያመጣም	ወደ ጥያቄ ቁጥር404 ይለፉ
404	አዎ ካሉ፣ጫት መቃም ምን አይነት ማህበራዊ እና ኢኮኖሚያዊ ችግር ያመጣል? (ከአንድ በላይ መልስ መስጠት ይቻላል)	1.ከቤተሰብ አባላት ጋር አለመስማማት 2.በማህበረሰቡ ተቀባይነት ማጣት 3.የምጣኔ ሀብት(የኢኮኖሚ) ችግር 4.የወንጀል እንቅስቃሴ(ስርቆት) 5. ሌላ ካለ ይገለፅ_____	

ጊዜዎን ወስደዉ መጠይቁን ስለሞሉልኝ በጣም አመሰግናለሁ።

## 12. Declaration

I, the undersigned, senior MPH student declare that this thesis is my original work in partial fulfillment of the requirement for the degree of Master of Public Health.

**Name:** Wondimu G/kiros

**Signature:** \_\_\_\_\_

Place of submission: School of Public Health, College of medicine and Health Sciences, University of Gondar.

Date of Submission: \_\_\_\_\_

This thesis work has been submitted for examination with my/our approval as university advisor(s).

### Advisors

Name	Signature
1. Dr.Getahun Asres (MD, MPH)	_____
2. Mr. Solomon Meseret (BSc, MPH)	_____